DEPARTMENT OF THE ARMY
HUNTSVILLE CENTER, CORPS OF ENGINEERS
P.O. BOX 1600
HUNTSVILLE, ALABAMA 35807-4301

REPLY TO
ATTENTION OF:

JUL 16 2007

CEHNC-OE-CX

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Formerly Used Defense Site (FUDS) Military Munitions Response Program (MMRP) Site Inspection (SI) Program Supplemental Execution Guidance, Military Munitions Center of Expertise Interim Guidance Document (IGD) 07-04

1. PURPOSE: The purpose of this memorandum is to provide supplemental guidance for the execution of site inspections under the FUDS MMRP SI Program.

2. APPLICABILITY: This guidance is applicable to U.S. Army Corps of Engineers (USACE) Districts, Divisions, and Design Centers performing or participating in FUDS MMRP Site Inspections.

3. REFERENCES:

a. Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, 42 USC §§9601-9657.

b. Defense Environmental Restoration Program (DERP), 10 USC §§2701-2708, §2710, §2805.

c. Engineer Regulation 200-3-1, Formerly Used Defense Sites (FUDS) Program Policy, 10 May 2004.

d. Military Munitions Center of Expertise (MM CX) Interim Guidance Document 07-01, Refusal of Right-of-Entry at a Non-Federal Property for a Site Inspection (SI), 26 April 2007.

e. Memorandum, CEMP-CR, 22 January 2007, subject: Rights of Entry for Site Inspection Purposes, Formerly Used Defense Sites Military Munitions Response Program.

f. Memorandum, CEMP-DE, 30 May 2007, subject: Site Inspections of Formerly Used Defense Sites on Lands Managed by the Bureau of Land Management.

g. USEPA, 1992 - Guidance for Performing Site Inspections under CERCLA, Interim Final, September 1992, PB92-963375, EPA 9345.1-05.

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h. Munitions Response Site Prioritization Protocol Primer (in press), Assistant Deputy Under Secretary of Defense for Installations and Environment.

i. FUDS MMRP SI Program Performance Work Statement, original 31 March 2005, subsequently amended for MRSPP and perchlorate in September 2006.

j. Memorandum, CENWO-HX, 11 August 2006, subject: Screening-Level Ecological Risk Assessments for FUDS MMRP Site Inspections.

k. Memorandum CENWO-HX, 24 May 2007, subject: CE Screening-Level Risk Assessments in the FUDS MMRP SI Reports (Level of Effort).

l. FUDS MMRP SI Program Management Plan, original February 2005.

3. BACKGROUND: USACE is required to complete 765 MMRP Site Inspections at FUDS properties by 2010 and subsequently approximately 200 additional sites beyond 2010. Reference L provides overall program guidance for executing these Site Inspections. This document provides supplemental detailed execution guidance for the USACE Project Development Teams (PDTs) to ensure consistency and efficiency during the execution of the SI Program.

4. REQUIREMENTS AND PROCEDURES: See enclosure.

5. EFFECTIVE DATES: The requirements and procedures set forth in this interim guidance are effective immediately. They will remain in effect indefinitely, unless superseded by other policy or regulations.

6. POINT OF CONTACT: If you need additional information, please contact Ms. Betina Johnson, FUDS MMRP SI Program Manager, at (256) 895-1238.

Carol A. Youkey

Encls

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SUPPLEMENTAL GUIDANCE
FOR
EXECUTING FORMERLY USED DEFENSE SITES (FUDS)
MILITARY MUNITIONS RESPONSE PROGRAM (MMRP) SITE INSPECTIONS (SI)

1. VISION AND MISSION: The FUDS MMRP SI Program has established the following vision and mission statements:

a. Vision: Working as a world-class team to build a sound foundation for the MMRP, delivering quality products/services and meeting DoD expectations, while protecting human health and the environment.

b. Mission: FUDS U.S. Army Corps of Engineers (USACE) SI Project Delivery Team including the Military Munitions Center of Expertise (MM CX), Design Centers, Regional Business Centers (RBC), Districts, and contractors working collectively with other stakeholders to complete FUDS MMRP Site Inspections.

c. Goals (pending funds availability):

(1) 765 projects completed by 2010.

(2) 962 projects completed by 2012.

(3) Phase completions: Phase completion goals are set prior to the start of each fiscal year in September. It is the RBC's and district's responsibility to review these goals in coordination with the design center and make corrections prior to finalization in August. The goal for FY08 is currently 180 completed Site Inspections.

d. Program Objectives: The primary objective of the MMRP SI is to determine whether the FUDS project warrants further response action pursuant to CERCLA and the NCP. The SI will collect the minimum amount of information necessary to:

(1) Eliminate from further consideration those releases that pose no significant threat to public health or the environment;

(2) Determine the potential need for removal action. In determining whether a removal action is necessary, USACE will apply the eight criteria for such response action listed in the NCP;

(3) Collect additional data, appropriate for supporting Hazard Ranking System (HRS) pre-scoring by EPA if desired; and

(4) Collect data, as appropriate, to characterize the release for effective and rapid initiation of the remedial investigation and feasibility study (RI/FS) based on the available data collected within the scope of the fieldwork.

e. A secondary objective of the MMRP SI is to collect the appropriate data to complete the munitions response site prioritization protocol (MRSPP).

2. MUNITIONS RESPONSE SITE IDENTIFICATION:

a. The contractor should start by reviewing previous findings regarding munitions at the FUDS property detailed in the Annual Report to Congress (ARC) MMRP Inventory and compare the information to the Archives Search Report (ASR)/ASR supplement (ref. Figure 2). If a SI was recommended, then normally, one or more Munitions Response Sites (MRS) have already been identified and reported to DoD (including the MRS boundaries, and the acreage within those boundaries).

b. Comparison of the ARC data with the ASR and ASR Supplement:

(1) The USACE Design Center personnel and District PMs along with their respective contractors are encouraged to review the information reported in the ARC and contained in the FUDS Management Information System (FUDSMIS) munitions response screens, because in some instances, there are differences between what was reported in the ARC, the original ASR, and the ASR Supplement. In such instances, include a discussion/explanation in the SI report, and if necessary, contact St Louis District and Rock Island District where there are major inconsistencies. (Reference Figure 1) (Note: The information in the FUDSMIS munitions response screens is generally the same information contained in the ASR Supplements and was prepared by St. Louis and Rock Island district staff. This information should also be the same information as reported in the ARC. Print screens from FUDSMIS should not be included in the SI Report). The ARC information can be found at http://deparc.egovservices.net/deparc/do/mmrp.

(2) Discrepancies between the ARC, ASR, and ASR Supplement: If an area/range/MRS is identified in the ARC, ASR, and the ASR Supplement shows different locations and/or the field conditions indicate an even different situation, the contractor should research the information (aerial photography, historical accounts, Common and/or Range Operations Reports, etc); discuss with District/Design Center, St Louis and Rock Island if necessary; identify the differences; retain the same acreage of the subject range as in the ARC (except for cases as identified below); and sample during the SI in the correct location as long as it is within the FUDS boundary of the property. If the contractor recommends further action, it should include further delineation during the RI/FS.

(3) Identified in ASR, but not ASR Supplement/ARC: If an area/range is identified in the ASR, but is not included in the ASR supplement (ARC), the contractor should research the information (aerial photography, historical accounts, Common and/or Range Operations Reports, etc); discuss with District/Design Center, St Louis and Rock Island if necessary; identify the differences; and sample during the SI in the correct location so long as it is within or originates within the FUDS boundary of the property and include in the report as an MRS.

c. MRS Identification:

(1) Unidentified range/burial area. If during the SI, the contractor finds evidence of a new range/burial area not identified in the ASR, ASR Supplement, ARC, or other project documents (INPR), it should be investigated during the SI, noted as an area of concern (AOC), and provide an estimated acreage, if information is sufficient to determine, in the SI report; however, a MRSPP score is not required (reference figure 1).

(2) The PM district is responsible for revising the INPR as appropriate, developing the project summary sheets, and getting approval prior to any further investigation of a newly identified MRS as a new FUDS project.

(3) No Range = no MRS (ref Figure 3): The MMRP does not include munitions storage, magazine areas or indoor ranges (e.g., pistol ranges, gas chambers) associated with a site, unless there is a clear project associated with it, such as an identifiable munitions burial site. It also excludes areas where training is known or rumored to have occurred, but the specific training area location is unknown. In other words, if a site/range can not be located, then no MRS should be identified.

(a) Example: Batteries with unknown locations that have previously been identified as MRSs that can not be located should be noted in the SI report as unidentifiable. Therefore, there should be no recommendation for additional investigation (RI/FS).

(4) Small Arms: If small arms are identified at an MRS and lead contamination exists, the site remains under the MMRP. If no lead or other chemical contaminants are identified in relation to the small arms range and no other munitions and explosives of concern (MEC) is believed to be present, a No DoD Action Indicated (NDAI) may be an acceptable recommendation.

(a) In the case of discovery of small arms (live) or intact blanks, the contractor shall coordinate with the Design Center Ordnance and Explosives (OE) safety specialist to determine the appropriate path forward.

(b) If there are anticipated releases from targets at small arms ranges, sampling for relevant compounds (i.e. PAHs at skeet ranges) is allowed as long as it is incidental to the munitions constituents (MC) sampling effort.

(c) When the small arms range has been put to beneficial reuse by the property owner as a range, the district PM should, in consultation with the design center and PRP district, make a determination as to whether the project is ineligible or a PRP project. In either case, NDAI would be appropriate for the MRS.

(5) Chemical Warfare Materiel (CWM): It is important to clarify the definitions related to Chemical Warfare Materiel for sites that refer to chemical training as that definition is different now than it was during the FUDS usage era.

(a) The definition of Chemical Warfare Materiel is: CWM is generally configured as a munition containing a chemical compound that is intended to kill, seriously injure, or incapacitate a person through its physiological effects. [32 CFR § 179.3]

(b) The definition of chemical agent is: Chemical agent means a chemical compound (to include experimental compounds) that, through its chemical properties produces lethal or other damaging effects on human beings, is intended for use in military operations to kill, seriously injure, or incapacitate persons through its physiological effects. [32 CFR § 179.3]

(c) CWM does not include riot control devices; chemical defoliants and herbicides; industrial chemicals not configured as a munition (drums or other bulk containers); smoke or other obscuration-producing items; flame- and incendiary-producing items; or soil, water, or other debris or other media contaminated with low concentrations of CA where no CA hazards exist. GAS CHAMBER INFO.

d. MRS Delineation (ref Figure 3):

(1) If during QR activities, observations are made by the contractor that the range may be larger/smaller, the acreage may not be increased/decreased unless the SI can refine/correct the previous boundary delineation and accompanying acreage within the scope of the investigation. If there is not enough information to delineate the boundary, the contractor should note the discrepancies and recommend that further delineation be conducted during the next phase of the CERCLA process. Any errors identified in the ARC (range inventory) or corrections based on SI findings should be corrected in FUDSMIS/ARC by the respective District PM.

(2) Delineation of MRS when no range boundary is identified: The FUDS property boundary (former installation boundary) does not normally equal an MRS. Only in the instance where the entire property was "planned, set aside, managed, and used as a range" would the entire property be identified as an MRS (e.g. precision bombing ranges).

(3) Contamination outside MRS: If contamination is found outside a previously identified MRS and within the eligible FUDS boundaries, the contamination must be discussed in the report and a recommendation must be made on the path forward (new MRS, delineation under next appropriate phase of the CERCLA process, potential extension of an existing MRS, etc).

(4) Outside FUDS boundary: When a range is entirely outside the FUDS boundary (does not originate within the boundaries) and has not been included in the Inventory Project Report (INPR), the INPR must be amended and finalized prior to investigating/agreeing to investigate the area. Eligibility of the range (MRS) should be looked at closely.

(a) Areas identified by the stakeholders that are clearly outside the FUDS boundary, not identified as a range in the ASR, ASR Supplement, and/or ARC, and not identified in the INPR shall not be included in the SI unless the INPR has been amended by the District PM and the property has been determined to be FUDS eligible. (see figure 4)

(b) MRS extends beyond FUDS boundary: If a range (originating within FUDS boundary) extends outside the FUDS boundary, then this area should be included as part of the SI efforts.

(c) In rare cases, the actual range location may vary from real estate records or GIS mapping coordinates due to human error. In those cases, the design center should coordinate with the district to determine if an INPR amendment is required.

(5) Water ranges: For water ranges which extend 100 yards seaward mean high tide point, the range should remain one MRS. The information, as agreed upon in Technical Project Planning (TPP), should be used to develop the MRSPP. NDAI may be recommended based on data in the SI; however, Project Closeout (PCO) may be unattainable with the stakeholders unless they all agree that the entire MRS can proceed to a NDAI. Obtaining PCO is not a requirement in the MMRP SI contract task orders.

3. FIELDWORK:

a. Qualitative Reconnaissance (QR): It is neither necessary, nor encouraged, to investigate areas within the FUDS property boundary where munitions/munitions constituents are not reasonably believed to be present. For instance, it is discouraged to perform qualitative reconnaissance outside the range acreage reported in the ARC unless agreed to during TPP meetings as a request of other stakeholders and there is a logical reason for conducting the QR outside the MRS based on additional information, such as sheriff's records of an Explosive Ordnance Detachment (EOD) response. In those instances where one or more stakeholders do not feel/believe that the safety fans for the ranges were adequate or realistic as drawn in the ASR, ASR Supplement, and/or ARC data, this acreage cannot be automatically increased/investigated, particularly when the acreage is outside the FUDS property boundary. The INPR must be amended to determine whether the area is eligible and to increase the acreage of the range/MRS.

b. Munitions debris: If munitions debris is identified on the surface on an MRS, a Remedial Investigation/ Feasibility Study is not automatically warranted and an NDAI may be pursued on a case-by-case basis. The basis for an NDAI recommendation should include concise information regarding the type of munitions utilized, the munitions debris identified in the field, and sound reasoning behind the justification of the NDAI (i.e. typical uses based on Common and/or Range Operations Reports, known components of the munition, fillers, if any, etc.).

c. Sampling inside of buildings: Surface sampling inside of structures, such as ammunition storage areas that may pose an imminent or substantial endangerment to human health or the environment, is allowable in accordance with Interim Guidance Document 06-03. This guidance is provided by the MM CX and located at http://www.hnd.usace.army.mil/oew/policy/IntGuidRegs/IGD001a.pdf.

d. Sampling for metals: Any metals that could be associated with MEC, to include munitions casings, should be evaluated during the SI unless otherwise agreed upon during the TPP meeting with the stakeholders.

4. RIGHTS OF ENTRY (ROE):

a. The HQ Real Estate section recommends the use of the revised ROE form for the SI program (reference D). Either the Real Estate section or the district PM should contact the property owners prior to sending out the letters to inform them of future activities associated with the FUDS MMRP SI Program. In instances where some property ROEs are not obtained (no response, extended timeframe on response), so long as the TPP meeting allowed for sample movement as necessary and the properties for which ROEs have been obtained will met the agreed upon Data Quality Objectives, proceed forward with the fieldwork activities.

b. For those areas in which ROE was denied, the parcel shall be identified in the SI report and an explanation behind the denied ROE shall be provided. The district shall notify the contractor whether the refusal was verbal or written. This may be critical information for the next phase (RI/FS) of the project, if any. ROE refusal guidance (reference C) will apply to projects where an SI can not be conducted because ROEs have not been granted. If the information available from surrounding properties is sufficient to make a recommendation for the MRS, the recommendation may be made for the MRS with indications that certain parcels (i.e., those with denied ROE) may be ineligible. The fieldwork for the SI effort and the SI report shall continue as scheduled even if a parcel is held up for a denied ROE (i.e., referred to state regulatory agencies/DOJ).

c. Special Use Permits: The office of the Deputy Assistant Secretary of the Army for Environment, Safety, and Occupational Health (DASA(ESOH)) and the Army Office of General Counsel has directed USACE not to sign special use permits with federal land managers.

(1) The Army is pursuing a Memorandum of Understanding (MOU) with the Department of the Interior and Department of Agriculture for access to their properties. Headquarters, US Army Corps of Engineers (HQUSACE) and Headquarters, Bureau of Land Management (HQ BLM) have issued guidance (reference D) using the letters enclosed to the MOU for the SI program.

(2) If the local federal land manager does not want to allow access to complete the SI, the district PM should elevate the issue to HQUSACE through the RBC. The district PM should also request that the design center evaluate the possibility of completing a desktop SI for this site. Final resolution of the project status will be made at HQUSACE with input from HQDA.

5. SITE INSPECTION REPORTS:

a. Recommendations: The recommendation for the MRS applies to the entire MRS (i.e., NDAI applies to the MRS and not to specific aspects of the MRS (i.e., MEC and/or MC)). Recommendations not to pursue MEC or MC in future phases should be included if appropriate, but this does not equate to an NDAI for the MRS. Recommendations should be made at the MRS level. The contractor shall confirm that the MRSs previously identified are valid, and recommend the appropriate action for the MRS. Recommendations for additional study under a RI/FS should not be made solely on exceedences of screening levels by non-hazardous metals. In this instance, the recommendation should be discussed further at the 2nd TPP session.

b. Recommendation for Removal Actions: A time critical removal action (TCRA) may be undertaken when MEC poses an imminent risk to human health and safety, such that delaying response in order to conduct a RI/FS would result in an elevated risk of a munitions-related injury to human receptors. Decisions to conduct a TCRA or a NTCRA will be based on site specific information and approved on a site-by-site basis in accordance with Engineer Regulation (ER) 200-3-1.

(1) Removal actions have limited objectives, and are typically short-term actions to mitigate/stabilize the threat posed by a release or threatened release of MEC and MC and contribute to the overall remedial response.

(2) The type of removal action should be determined as the result of discussion with the regulators during the second TPP session. The following example scenarios are provided when each type of removal action might be appropriate.

(a) When MEC is identified on the surface of an area with unrestricted public access would be an example of a time critical removal action. Suggested wording: During the course of the SI, MEC (list types of items) was found on the is appropriate to consider surface of the MRS. There are no access restrictions on the site. These findings suggest a potential, imminent, and substantial endangerment to the public. Therefore, recommend a time critical removal action be evaluated.

(b) MEC is identified but access is restricted or the MEC is buried. However, there is nearby development which could impact the MRS within the next several years. Suggested wording: During the course of the SI, the following types of MEC were found on the surface/buried at the MRS. Site access is currently restricted, however, nearby development may impact the MRS within the next few years (prior to an RI/FS being programmed/initiated based on MRSPP site sequencing) and pose an imminent or substantial endangerment to the public. Therefore, recommend that a non-time critical removal action be elevated for consideration.

c. Area of Concern: When reliable information is found about MEC on the property not associated with an MRS, the location should be considered an area of concern (reference figure 1). This should be based on visual observations, documented use of the area in historic military records, or other verifiable forms of factual information and not mere hearsay statements. A screening level risk assessment is not required for an area of concern; however, supporting data that is gathered during the SI and other factual information to be included in a screening level risk assessment at during the next phase can be summarized in the report. Also, a MRSPP score will not be calculated, however, any reliable factual information gathered that supports scoring should be included in the summary section. If any PRPs are associated with the AOC, the area will be referred as a potential PRP project to the responsible PRP District (see 3(c) below for suggested report language).

(1) Property Description and History: If AOCs are identified, a separate section summarizing available factual information about each AOC should be included.

(2) Summary and Conclusions: A separate paragraph within the summary and conclusions after the discussion of MRS's should be included. This paragraph should identify

each AOC and provide a brief summary of any information gathered during the SI. This section should also include any reliable information gathered that would support MRSPP scoring.

(3) Recommendations: There should be a separate discussion on each AOC in the recommendations section. Suggested language for the report is provided below:

(a) Based on information gathered during the SI, risk to human health and the environment is considered low, and no additional studies are required.

(b) Based on information gathered during the SI, additional studies during the next CERCLA phase are required to determine the need to designate an MRS and to proceed to investigate the nature and extent of contamination due to MEC/MC and evaluate the risk of this AOC to human health or the environment. If an MRS is designated, an MRSPP score will be established using the substantiated information developed during the SI and any additional reliable information that is obtained.

(c) Based on information gathered during the SI, there are PRPs associated with this area and there may be a need for additional CERCLA response actions. This area will be referred to the USACE FUDS PRP District for appropriate action in accordance with ER 200-3-1.

d. Phase Completion: At the acceptance of the Final Report it is the PM district's responsibility to enter the completion date in FUDSMIS.

e. Risk Assessments concerning metals (non-hazardous substances): While not all MEC/MC constitute CERCLA hazardous substances, pollutants, or contaminants, the DERP statute provides the DoD with the authority to respond to releases of MEC/MC. DoD policy states that such responses shall be conducted in accordance with CERCLA and the NCP. Non-hazardous CERCLA substance may be analyzed during the SI (if they are MC from MEC used at the site), the site concentrations should be compared to background concentrations. This information should be discussed appropriately in the risk section of the SI report. The contaminate should be related back to Human Health and Ecological Screening values used in the Screening Level Risk Assessments (SLRA).

f. Risk assessment screening levels may be updated at any time during the SI process prior to the publication of the Final SI Report.

g. GIS requirements: The Geographic Information System (GIS) submittals are required to meet the intent of the data item description (DID mr005-07) and Spatial Data Standards Facilities Infrastructure and Engineering (SDSFIE) as stated in the original Performance Work Statement (PWS).

(1) If data from an external source (e.g., a state agency) is not sufficiently documented for the contractor to not "misinterpret" during the mapping of the data to the SDSFIE standard, then the data is viewed as unsuitable for submittal on the contract. PDFs do not meet the requirement within the DID for electronic submittal.

(2) A submittal containing only Shape files does not meet the submittal requirement for a complete GeoReferenced GeoDatabase file, as required by the original PWS modification and further clarification dated 18 January 2007 (reference figure 6). Background imagery, or Map files (MXDs) should be conveyed as part of the electronic submittal. The submittal should include proper data such that the ES-1 plate can be reproduced, or any other plate or figure contained within the report.

(3) Digital pictures conveyed in Appendix E should be provided as part of the electronic submittal.

(4) The required supporting files will allow the Government and or its follow-on contractor(s) at some future date to reproduce not only the written report, but also the Plates, figures, digital pictures, and GIS, for future phase(s) of the CERCLA remedial action process.

h. Electronic data deliverables for Chemistry Data are required (prior to approval of the Final SI report). These deliverables must have been reviewed and found acceptable. They are required to be submitted with the report. The following files must be included for a complete submittal:

(1) Library file (should be project specific),

(2) DTD file,

(3) SEDD Stage 2A or 2B XML file,

(4) Post-review ADR files,

(5) Annotated Error Log.

i. Upon implementation of the MRSPP Wizard once the tool is available for use and has been provided as part of the contract task order, the submittal should include the following additional files:

(1) SEDD Stage 1 export file (currently optional, as MRSPP Wizard is implemented, this should be provided),

(2) MRSPP Wizard export file.

i. Acceptance of these files should be based on the following:

(1) The error log generated by the reviewer should match the error log provided by the contractor.

(2) For SEDD Stage 2A files, the files should successfully pass the EPA Stage 2A checker (http://epasmoweb.fedesc.com/sedd/checker/uploadservlet <https://eko.usace.army.mil/_kd/go.aspx?destination_ShowItem&Item_ID=29303>)

(3) For SEDD Stage 2B files, there is no current known checker of this type. If the 2A checker can be used to check those portions of the 2B files, it should be used.

(4) The reviewed files (PREP files) should be consistent with flagged data tables provided in the report. If there are manually derived data flags (from hard copy review), they should be documented in the reviewed data file.

j. Quality Assurance (QA) Split Sampling Data/Chemical Quality Assurance Reporting. If QA split samples were collected for the project, the data must be provided to the contractor by the Design Center for inclusion in the final SI Report. Documentation of DC/District QA activities (per EM 200-1-6) to include the evaluation of split sample data should also be provided for inclusion in Appendix G.

6. MANUFACTURING FACILITIES:

a. At manufacturing facilities, when contamination is from manufacturing operations, such as red water, DERP guidance requires that the site be funded by Installation Restoration Program (IRP). The FUDS district should check to ensure the project does not have a PRP shared liability issue before proceeding.

b. However, if the contamination comes from MEC (including explosives in soil with concentrations greater than or equal to 10% by weight, an area of concern should be recommended; however, a MRSPP score is not required to be calculated.

c. If the soil concentration is non-explosive (less than 10%) and not related to MEC, the information gathered during the SI shall be provided to the district PM and referred to the HTRW program (an MRSPP score is not required). The available information should be included in the report, but no additional work would be required under the MMRP.

d. If there are indications of MEC(including explosive contaminated soil) present (i.e., there are both HTRW and MMRP eligible portions), the site should be separated into two projects/sites. If separation is not feasible, then the project/site falls entirely under the MMRP program.

7. STAKEHOLDER/PUBLIC INVOLVEMENT:

a. MRSPP Public Notice: The template (reference Figure 5) has been revised for the public notice advertisement for local newspapers. The template is a model that can be customized for your properties. It should be followed as closely as possible.

b. Per DERP Management Guidance, the Information Repository shall be at a location near the site, a location that is easily accessible to the public, and that will make the information available for inspection at times convenient to the public. The reports and materials should be placed in the Information Repositories near the properties. It is best if the public views the reports at the information repositories and then follows up with the project managers or Public Affairs Offices (PAOs) if they have questions, concerns or information to share.

(1) Some contents of the centrally maintained Administrative Record need not be included in the Information Repository. Sampling and testing data, quality control and quality assurance documentation, chain of custody forms, guidance documents not generated specifically for the site, and publicly available technical literature not generated for the site are examples of the types of documents that an installation or FUDS need not include in the Information Repository, provided that the index to the Administrative Record indicates the location and availability of this information. Documents included in the confidential portion of the administrative record also need not be included in the Information Repository. DVDs of the documents are also not required to be put in the information repository. If a stakeholder wishes to view any information not in the repository, they should make arrangements with the district PM.

(2) Materials posted to web sites prior to the issuance of this guidance, may remain until the comment period expires. At that point, they should be removed from the web site, but kept in the information repository. A web site may not be used in lieu of an information repository; the district PM needs to ensure that information is being placed in the information repository as that is the requirement.

c. Technical Project Planning (TPP) meeting: Ecological screening values, in some cases, are not being discussed during the development of Data Quality Objectives (DQOs) at the initial TPP meeting; it is important to address these values up front in the process. Also, in some instances, the stakeholders have requested that the second Technical Project Planning meeting be held as a teleconference or video-teleconference rather than a face-to-face meeting. This option is allowable but only in the instance that the contractor has written buy-in from all stakeholders (including but not limited to USACE personnel, regulatory agency representatives, landowners, and other stakeholders attending the first TPP meeting). All agreements made during the second TPP meeting should be reflected in the Final SI report as part of the recommendations. Also, the second TPP meeting information (including attendee list) must be included as an appendix to the Final SI report for documentation purposes.

8. CHEMICAL AGENT IDENTIFICATION SETS (CAIS):

a. For properties where there are shipment records of CAIS but no records or other indication of disposal or burial, it will be assumed that no CWM hazard exists and no MRS will be identified. However, the district PM should offer the property owner CWM safety information pertaining to potential CAIS. The CHE module of the MRSPP should be scored appropriately in consultation with the CWM Design Center, particularly if a separate CWM project does not exist for this property.

b. The report should note that the property did receive CAIS.

(1) Suggested language to include in the report: Chemical Warfare Service shipping records indicate that CAIS sets were shipped to {Property Name} however there are no records of disposal onsite. It is therefore assumed that all CAIS sets were expended during training. If in the future additional information is received confirming the burial of CAIS, USACE will reevaluate this area to determine if additional response is required. Information on CAIS safety

training can be found on the DoD DENIX website at https://www.denix.osd.mil/denix/Public/Library/Explosives/UXOSafety/uxosafety.html.

c. The PM district should note in the property description field in FUDSMIS that there are records of CAIS shipments and this property may require reevaluation in the future. A CWM project is not required.

9. POTENTIALLY RESPONSIBLE PARTIES (PRP):

a. In some cases, the MRS may have other potentially responsible parties who have liability for contamination at the site, either because of activities subsequent to DoD's association with the site or because of their actions during DoD's association with the property. In these cases, the report should indicate the name of the other PRP and that any future work be done as a PRP project in consultation with the Office of Counsel. The district should close out this MRS as a MMRP project and contact the PRP district to establish a MMRP/PRP project. A good example of a PRP property requiring further analysis would be a government-owned contractor-operated (GOCO) facility. Any site involving PRPs should be reviewed carefully and contractors generating such reports should be warned to avoid making presumptive comments or speculation.

b. The report should discuss observations during the SI work of actual MEC items on the property or reliable historical documents that provide evidence of activities that have occurred on this property related to MEC usage in specific areas. All sentences that include speculative language should be removed: presume, assume, believe, think, likely, speculate, or deduce.

c. There should be no attribution to DoD of responsibility for site conditions. Such statements should be identified and removed. In particular, if the property was operated by a contractor, there should be no statements that DoD "operated" or directed or controlled or managed or is responsible or liable for any areas or activities on this property. The SI should report on existing conditions. The Corps will evaluate and determine DoD responsibility separately.

d. The report should indicate other owners and operators at the property such as a GOCO operator. The name(s) of such parties should be included. The PRP district should provide to the contractor information on operations on the property and in the intervening years since DoD excessed the property, and if there have been any regulatory activities taken by EPA or a State regulator, such as any RCRA permitted area, any NPDES permitted outfall, any corrective action or removal action, or other similar regulated actions on this property.

e. Where there has been PRP activity at the site, the only recommendation by the contractor that should be included is for a PRP designation for the MRS.

(1) Below is model language for SI reports at PRP sites.

(a) Findings Statement: "This property has had the following owners and operators at the site: [List Owners, Operators, Summarize Activities and Years of Association]"

(b) Recommendation: The contractor should leave a placeholder for the design center to provide a recommendation statement for the draft final SI report. In the case of a site with recognized PRP activity the design center must recommend a PRP project.

(c) It is the district's responsibility to coordinate the draft report with the appropriate office of counsel (i.e. district, design center, etc) and the appropriate PRP district office. Comments to the report shall be provided in a timely manner. The PRP district attorney and PDT will determine the appropriate path forward. In general, it is FUDS policy not to perform response actions at PRP sites.

(2) The district PM will provide the design center with the recommendation statement for inclusion in the draft final report. PM District Recommendation for draft report:

(a) "It is FUDS policy not to perform response actions at PRP sites. Based on the analysis results and the QR conducted, further investigation is recommended under the PRP project."

f. If the property has been designated as a potential PRP project, a MRSPP score is not required to be calculated. However, the report should include the information gathered so that the PRP district could calculate a score, if necessary.

g. MMRP Project Closeout: The property and/or project should be NDAI Category 1 when a PRP project is determined to be appropriate. Before making this decision, the USACE District shall coordinate this determination with the property's lead regulator. This will allow the lead regulator the opportunity to provide new information that may affect the USACE final determination as a PRP project.

10. MUNITIONS RESPONSE SITE PRIORITIZATION PROTOCOL SCORING TABLES:

a. The MRSPP score replaces the risk assessment code (RAC) score following the SI phase designation of MRSs. Each range (MRS) must have an individual MRSPP score. Automated MRSPP forms are being developed, also known as the MRSPP wizard tool. The FUDS MMRP SI Program EKO page has an updated EXCEL spreadsheet for use in completing the MRSPP for each MRS until the automated version has been provided as part of contract requirements.

b. Consistent with training and materials developed for the MRSPP, the following procedures shall be used:

(1) To complete the EHE and CHE portions of the protocol: (For simplicity purposes the EHE is included as the example; the same is applicable to CHE).

(a) If there is not enough information to fill in all tables for the MRS, include sheets 1-10 with the tables that can be filled in with no module score and mark it as "Evaluation Pending".

(b) If there is a potential for conventional ordnance (including MEC or munitions debris found during the SI) include sheets 1-10 with all tables filled in and both a module table and a letter module rating provided.

(c) If there is not a potential for conventional ordnance (including no MEC or debris found during the SI), fill in Table 1 in the EHE tables, selecting evidence of no munitions and providing location of supporting data in the SI. Fill in Table 10 with the EHE module total of "0" and a EHE module rating of "No known or suspected MEC hazard" and include the rating in Table 28.

(d) When a response has been conducted and the response objectives have been met, provide Table 10 with a module rating of "No longer required".

(e) Range types for unique sites. In cases where the site does not clearly fall into one of the categories listed, the nearest type should be used. For example, in the case of a site with dredging spoils that likely came from a water range the former burial pit or other disposal area classification should be used instead of water range.

(2) For the HHE module,

(a) New comparison value tables have been provided by OSD in advance of their formal publication in the MRSPP Primer (reference 2d.). The values have been posted to EKO. The values are final; however, the introductory text is still in revision and has not been included. The tables should be implemented immediately. If the HHE tables for the MRSPP were completed prior to the issuance of this guidance, they should be updated with the new comparison criteria in the next iteration of the report unless the second TPP meeting has already occurred. If the second TPP meeting has occurred, the Relative Risk Site Evaluation (RRSE) criteria published in the draft MRSPP Primer may be retained until the MRSPP data is incorporated into FUDSMIS, at which time they will be updated and any change in the score will be coordinated with the stakeholders by the FUDS district PM during the annual update.

(b) Data used to complete the HHE should be recent, representative, and reliable and should include all contaminants of concern that are attributable to the site, especially those that produce the highest ratios of observed concentrations to their comparison values. If there is data for the site that was not generated under the SI program that meets these criteria, it should be included in the MRSPP.

(c) Attribution implies that the contaminant concentrations are distinguishable from background concentrations. Do not include naturally occurring compounds that are detected within established background concentration ranges. If all analytical data are within established background ranges for a medium or site, automatically assign that medium or site a rating of "No Known or Suspected MC Hazard."

(d) In order for the analyte to be included in HHE scoring, analyte must have a comparison value in the relevant table in Appendix B of the MRSPP Primer and maximum concentration of the analyte must exceed background concentration (if it is available for the analyte). CERCLA non-hazardous substances should be included in the scoring if both these criteria are met. Also, in accordance with US Code of Federal Regulations (32CFR179) addressing incidental non-munitions related contaminants at an MRS is allowable.

(e) All contaminants that have been reliably reported at concentrations near or above the detection limit can be included. Do not include contaminants without comparison criteria. Note that the revised tables attached include some contaminants that were not included in the RRSE tables provided in the draft MRSPP Primer.

(f) For contaminants with reliable analytical data, record only the maximum concentration found in the medium for each contaminant. The contaminants need not have been detected at the same location, but contaminant data should be recent and representative of conditions at the site.

(g) Default values for migratory pathway factor (MPF) and receptor factor (RF) are Potential (M). Rationale to support the use of other values for these factors should be discussed in Table A.

(h) Contaminant Hazard Factor Ratios should be rounded to two significant figures.

(3) Table A should include identifying FUDS Project identification number, Federal Facility Identification number (FFID), and Range Management Information System number (RMIS). The point of contact should be identified as the current FUDS district project manager unless otherwise directed by the appropriate design center. The component should be the U.S. Army.

c. For conventional MMRP SIs that require completion of the CHE module, the design center should coordinate with the CWM Design Center.

Figure 1 - Munitions Response Site or Area of Concern

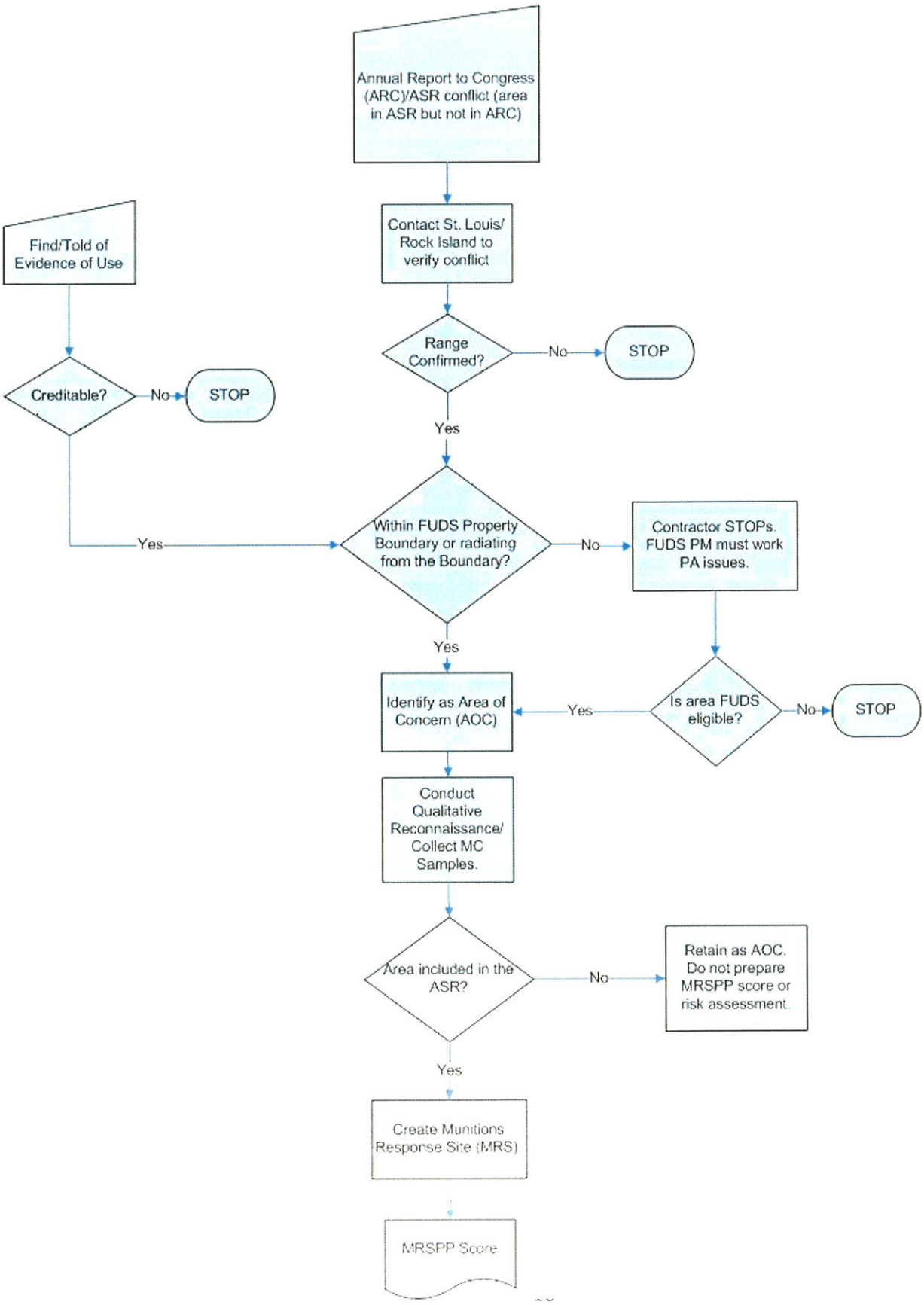

Figure 2 - Illustration of Ranges in ASR/ASR Supplement

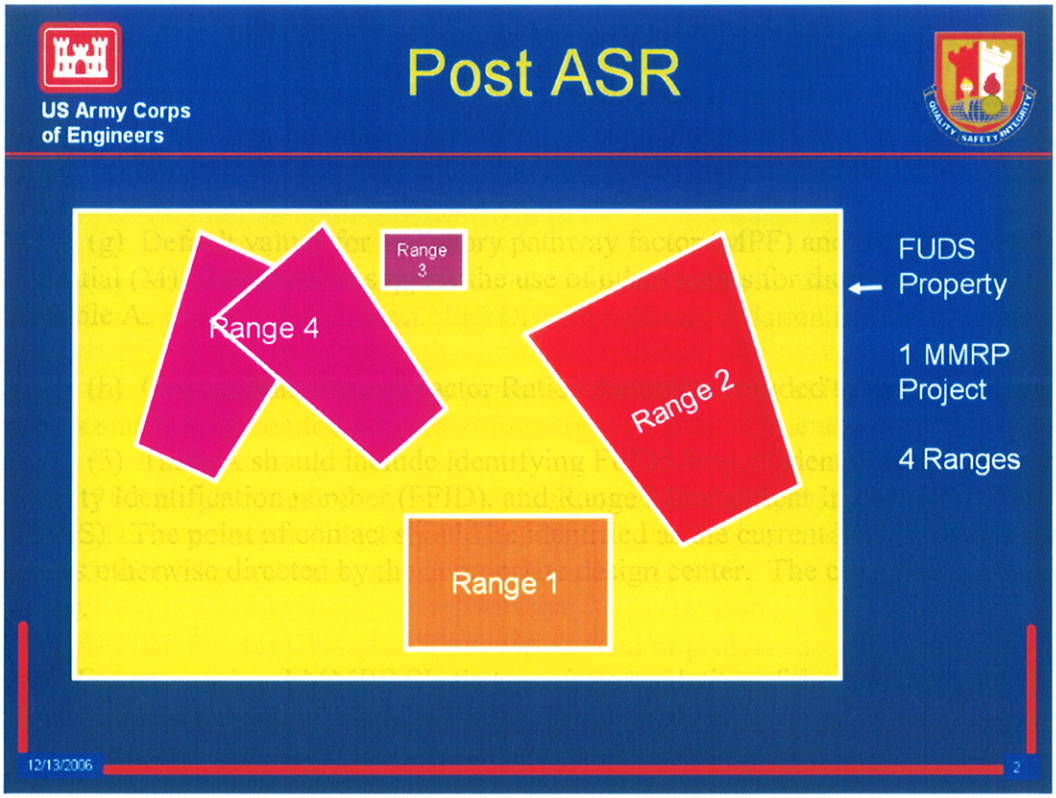

Figure 3 - Illustration of Ranges as MRSs upon completion of SI

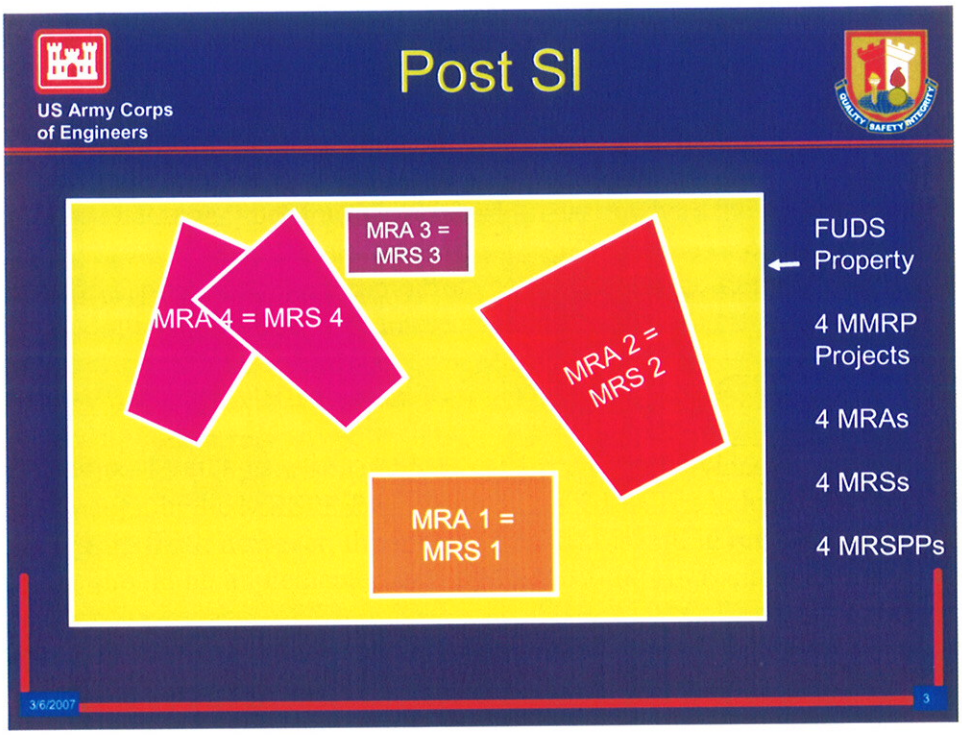

Figure 4- Illustration of Offsite target

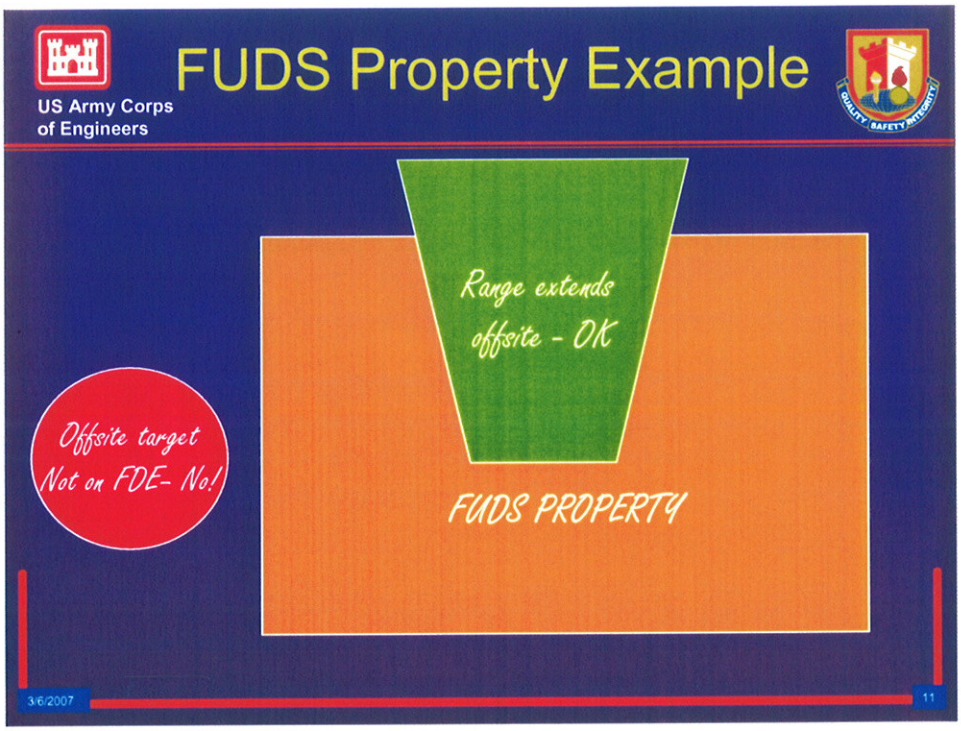

Figure 5 - MRSPP Announcement

U.S. Army Corps of Engineers
_____ District

PUBLIC NOTICE

Request for information about the [Name of site]

Recently, the U.S. Army Corps of Engineers completed a Site Inspection at the former ***Name of Site***. ***One sentence that describes what took place at this site (i.e. chemical warfare training, live-fire, testing, etc.).***

Name of Site is one of many former military installations throughout the United States that will be reviewed under the Department of Defense's Munitions Response Site Prioritization Protocol. This protocol is used to assess sites that may have unexploded ordnance, discarded military munitions or munitions constituents, and to assign priorities for any additional investigation or munitions removal that may be required.

The evaluation criteria, including types of munitions that may be present, ease of access to the site and number of people living near the site, are available for public review in the Site Inspection Report located at ***complete address of information repository.***

For more information or if you have additional information about past activities related to the ***Name of Site***, please contact:

Project Manager		**PAO**
contact info here	**or**	**contact info here**

Figure 6 - GIS Geo-database Structure Tables

Entity Set

SDSFIE Feature Name	SI Outline	Type	Entity Set	Definition	Priority
acquisition_boundary_area	Section 2	Polygon	cadastre	The outside boundary of all land contained in fee acquisition.	3
approx_boundary_point	Field Generated	Point	boundary	but an approximate location of something.	F*
aquifer_area	Section 5	Polygon	hydrography	An area of subsurface water bearing stratum, sand or gravel	1
aquifer_recharge_area	Section 5	Polygon	hydrography	An area that is a source of water for an aquifer	3
building_env_concern_site	Section 2	Point/Polygon	environmental_hazards	Site of building or structure which contains one or more building.	1
building_floor_area	Section 2	Polygon	buildings	The space within the floor outline, the perimeter, or the building footprint	1
chem_waste_od_sediment_area	Section 6	Polygon	environmental_hazards	Area where chemical waste residues are present in the sediment.	5
chem_waste_polluted_air_area	EPA Regulated Area	Polygon	environmental_hazards	Area where chemical waste residues are present in the air at concentrations considered to be detrimental to the environment	5
chem_waste_polluted_gwt_area	Section 5	Polygon	environmental_hazards	Area where chemical waste residues are present in the groundwater at concentrations considered to be detrimental to the environment.	5
chem_waste_polluted_soil_area	Section 3	Polygon	environmental_hazards	Area where chemical waste residues are present in the soil at concentrations considered to be detrimental to the environment.	5
chem_waste_polluted_swt_area	Section 6	Polygon	environmental_hazards	Area where chemical waste residues are present in the surface water at concentrations considered to be detrimental to the environment	5
chemical_warfare_waste_area	Section 2	Polygon	environmental_hazards	Area where chemical warfare waste residues are present or buried in the water, soil, or segment	5
cult_probable_sensitive_site	Section 2	Polygon	cultural	A site suspected to contain archeological or historic resources that has not been verified by a detailed archeological study.	1
cultural_restricted_area	Section 2	Polygon	cultural	An area that needs to be preserved due to the sensitive nature of the archeological or historic site. The area designated as is intended to prevent access or development that will disturb the site	1
cultural_study_site	Section 2	Point/Polygon	cultural	A site under study for archeological or historic resources.	2
cultural_survey_site	Section 2	Point/Polygon	cultural	A site where detailed investigation has been conducted for cultural resources. This investigation could involve test pits, excavation areas, surface surveys, etc	2
doe_formerly_used_defnse_site	Section 2	Point/Polygon	environmental_hazards	A site which was formerly owned or used by the Department of Defense which has been identified for assessment/ investigation/remediation under the Defense Environmental Restoration Program - Formerly Used Defense Sites (DERP-FUDS) which may or may not have an active environmental restoration study or project.	4
dudded_impact_buffer_area	Section 2	Polygon	military_operations	An area around a non-duded impact area where access is restricted for safety reasons	3
dudded_impact_site	Section 2	Point/Polygon	military_operations	A contaminated site that has been investigated and determined to contain, or potentially contain, some abandoned or unexploded ordnance materials. Investigated geomagnetic anomalies can suggest potential presence of UXO. An area where munitions impact but do not detonate - leaving a "dud" or unexploded ordnance	3
ecology_habitat_site	Section 2	Point/Polygon	ecology	Location that supports a particular ecological community or population set.	1
ecology_management_site	Section 2	Point/Polygon	ecology	Ecology management areas including ecoregions.	1
ecology_species_site	Section 2	Point/Polygon	ecology	Location at which a species has been or is being observed and counts or other population observations may have been made.	1

env_field_sample_loc_point	Section 3	Point	environmental_hazards	The physical location at which one or more environmental hazards field samples are collected.	F1	
env_regulated_facility_site	Section 2	Point/Polygon	environmental_hazards	A facility or other locational entity, (as designated by the Environmental Protection Agency) that is regulated or monitored because of environmental concerns.	3	
environmental_restoran_site	Section 2	Point/Polygon	environmental_hazards	A geographic area where an active environmental effort or project is underway to remediate pollutants located in the soil, sediment, surface water, or groundwater.	3	
essential_fish_habitat_area	Section 2	Polygon	ecology	Essential fish habitats (EFH) are those regulatory defined waters and substrate necessary for fish for spawning, breeding, feeding, or growth to maturity.	1	
fauna_special_species_site	Section 2	Point/Polygon	fauna	A site or location where a specific species associated with the habitat require special attention according to law. These are normally threatened, sensitive, or endangered species habitats.	1	
fauna_species_site	Section 2	Point/Polygon	fauna	A site or location where a specific species is observed.	1	
fauna_study_area	Section 2	Polygon	fauna	A geographic area created for the study of fauna.	1	
fence_line	Section 2	Line	improvement	The line, along which, a fence has been erected.	F1	
firing_fan_area	Section 2	Polygon	military_operations	Imaginary surface angled at a degree consistent with the type of weapon discharged, normally 38 degrees emanating from the firing point along the firing line.	X	
firing_lane_area	Section 2	Polygon	military_operations	The designated hazard area parallel to either side of the firing line.	3	
firing_line	Section 2	Line	military_operations	The designated hazard area that follows the projected trajectory of a munition.	3	
firing_site	Section 2	Point/Polygon	military_operations	The designated point or area within a firing lane and firing fan where the weapon is discharged or fired - usually the point of convergence of firing fan.	3	
flood_contour_line	Section 6	Line	hydrography	A line representing the limit or extent of probable flooding associated with the area.	1	
flood_zone_area	Section 6	Polygon	hydrography	An area where statistically derived flood inundation may exist within a specific return period, i.e. 100 year or 500 year chance of flooding, for insurance and floodplain management purposes.	1	
flora_special_species_mgt_area	Section 2	Polygon	flora	The area containing a threatened, endangered, or rare flora species.	1	
flora_special_species_site	Section 2	Point/Polygon	flora	A site or location where there are threatened, endangered, invasive, or sensitive floral species.	1	
flora_species_management_area	Section 2	Polygon	flora	A location where rare, threatened, endangered, etc. flora species are managed.	1	
flora_species_site	Section 2	Point/Polygon	flora	The specific location where an individual flora species or an aggregate of flora species has been identified.	1	
flora_study_area	Section 2	Polygon	flora	A geographic area created for the study of flora.	1	
future_projects_landuse_area	Section 2	Polygon	future_projects	This feature describes man's categorization of the proposed use of land and water.	1	
future_projects_line	Section 2	Line	future_projects	Site specific general linear features within a potential future construction project or activity.	2	
future_projects_site	Section 2	Point/Polygon	future_projects	Site specific general area and point features within a potential future construction project or activity.	2	
gov_wildlife_management_area	Section 2	Polygon	fauna	An area either owned by federal, state, or local governments or government agencies specifically identified for management or preservation of wildlife.	1	

hab_of_part_concern_area	Section 2	Polygon	ecology	Habitat areas of particular concern (HAPC) are subsets of essential fish habitats (EFH) areas that are identified to be especially important ecologically or particularly vulnerable to degradation requiring additional focus or conservation.	1	
hazardous_waste_disposal_area	Section 2	Polygon	environmental_hazards	A location which has been used for the disposal of hazardous waste (e.g., pit, buried drums, etc.).	3	
historic_district_area	Section 2	Polygon	cultural	A group of related buildings or streetscapes that demonstrate the historical development of an area.	3	
historic_feature_site	Section 2	Point/Polygon	cultural	Historically or culturally significant points of interest. These include monuments, memorials, landmarks, museums, historic markers, interpretive sites, etc.	1	
historic_impact_area	Section 2	Polygon	military_operations	An impact area, dudded or non-dudded, no longer in use which may pose potential risk.	3	
installation_historical_area	Section 2	Polygon	cadastre	An area of land and water which depicts a prior DoD installation boundary.	1	
land_use_area	Section 2	Polygon	land_status	This feature describes man's categorization of the use of land and water.	1	
land_vegetation_area	Section 2	Polygon	flora	A discrete area where land flora has been classified.	3	
landfill_cell_area	Section 2	Polygon	environmental_hazards	Excavated or constructed receptacle used for the disposal of solid waste.	3	
mil_bomb_circle_target_area	Section 2	Polygon	military_operations	A precision bomb circle used in training on military ranges or exercise areas.	3	
mil_special_use_airspace_site	Section 2	Point/Polygon	military_operations	Special use airspace (SUA) is a three-dimensional region of airspace for activities which must be confined because of their nature. Limitations may be imposed upon aircraft operations that are not a part of the airspace activities. Special use airspace includes any associated underlying surface and subsurface training areas. The types of SUA are Alert Area, Controlled Firing Area, Military Operating Area (MOA), Prohibited Area, Restricted Area, and Warning Area.	x	
mil_surface_danger_zone_area	Section 2	Polygon	military_operations	Areas where live or inert ordnance impact the earth after being dropped from aircraft, fired from ground-based artillery, or fired from shipboard guns. Part of the entire military live fire range area.	3	
military_range_area	Section 2	Polygon	military_operations	(40 CFR 266.201) A designated land or water area set aside, managed and used to conduct research on, develop, test, and evaluate military munitions and explosives, other ordnance, or weapon systems, or to train military personnel in their use and handling. Ranges include firing lines and positions, maneuver areas, firing lanes, test pads, detonation pads, impact areas, and buffer zones with restricted access and exclusionary areas. The definition of a military range does not include a airspace used for training, testing, or research and development where military munitions have not been used.	3	
non_dudded_impact_area	Section2	Polygon	military_operations	A medium risk area where explosive munitions land after firing.	3	
non_dudded_impact_buffer_area	Section 2	Polygon	military_operations	An area surrounding a non-dudded impact area where access is restricted for safety risk reasons.	3	
oe_anomaly_point	Section 3	Point	environmental_hazards	Location where a suspected Ordnance and Explosives (OE) Waste related geophysical anomaly has been identified. Also stores information about subsequent reacquisition and excavation of the anomaly (DIG RESULTS).	1	

oe_grid_area	Section 3	Polygon	environmental_hazards	A defined gridded area in which the presence of Ordnance and Explosives Waste (OE) contamination is being, or has been investigated.	1	
oe_hazard_concern_site	Section 3	Point/Polygon	environmental_hazards	A site of known or suspected ordnance and explosive (OE) waste contamination	1	
oe_hazard_invest_sector_area	Section 3	Polygon	environmental_hazards	A homogeneous area within an oe_hazard_concern_area for which the same method of investigation can be applied. Usually subdivided into investigation Grids.	1	
oe_hazard_invest_transect_line	Section 3	Line	environmental_hazards	A ordnance and explosive (OE) waste geophysical investigation transect line, typically part of a grid investigation or a meandering path investigation	1	
oe_hazards_rac_score_area	Section 2	Polygon	environmental_hazards	A ordnance and explosive (OE) waste geophysical investigation area which has been evaluated and assigned a Risk Assessment Code (RAC) score	1	
oe_item_point	Section 3	Point	environmental_hazards	A ordnance and explosive (OE) location where actual OE items, including OE scrap, UXO, and CWM-related items, were recovered	1	
ordnance_explosive_waste_area	Section 2 & 3	Polygon	environmental_hazards	Area where ordnance and explosive waste residues are present or buried in the water, soil, or sediment	1	
parcel_acquisition_area	Potentially Sec. 2	Polygon	cadastre	Tract boundaries for all land obtained in parcel acquisitions. (fee and less-than-fee)	3	
parcel_area	Potentially Sec. 2	Polygon	cadastre	A single cadastral unit, which is the spatial extent of the past, present,and future rights and interests in real property and the geographic framework to support the description of the spatial extent	3	
photograph_location_point	Field Generated	Point	common	The location where the photograph is taken. The camera location.	F1	
rad_waste_pol_sediment_area	Section 6	Polygon	environmental_hazards	Area where radioactive waste residues are present in the sediments at concentrations considered to be detrimental to the environment.	5	
rad_waste_polluted_air_area		Polygon	environmental_hazards	Area where radioactive waste residues are present in the air at concentrations considered to be detrimental to the environment.	5	
rad_waste_polluted_gwt_area	Section 5	Polygon	environmental_hazards	Area where radioactive waste residues are present in the groundwater at concentrations considered to be detrimental to the environment.	5	
rad_waste_polluted_soil_area	Section 3	Polygon	environmental_hazards	Area where radioactive waste residues are present in the soil at concentrations considered to be detrimental to the environment.	5	
rad_waste_polluted_swt_area	Section 6	Polygon	environmental_hazards	Area where radioactive waste residues are present in the surface water at concentrations considered environmentally detrimental	5	
rifle_range_unit_site	Section 2	Point/Polygon	environmental_hazards	A geographic area either currently or formerly used for rifle training activities which is managed and monitored for compliance with environmental laws and regulations.	1	
right_of_entry_area	Required for Field Work	Polygon	cadastre	An area where temporary access privileges have been negotiated. Normally associated with passage or entry required incident to a construction project.	1	
road_centerline	Section 2	Line	transportation	The center of the roadway as measured from the edge of the paved surface. The segments of a road centerline will coincide with the road segments in order to have similar characteristics.	1	
soil_sample_point	Section 3	Point	soil	Location of a soil sample taken to determine characteristics of soil	F1	
structure_existing_site	Section 2	Point/Polygon	buildings	An existing structure that was created, by man, for occupation, storage, or to facilitate an activity	1	

superfund_site	Section 2	Point/Polygon	environmental_hazards	Geographic area designated by the Environmental Protection Agency where hazardous waste is either abandoned or uncontrolled, as mandated and defined by the Comprehensive Environmental Response Compensation and Liability Act (CERCLA)	1
uxo_clearance_area	Section 2 and 3	Polygon	military_operations	The area in which unexploded ordnance is disposed or removed.	2
uxo_contamination_site	Section 2	Point/Polygon	military_operations	The area in which unexploded ordnance is known or suspected to exist.	1
water_intake_point	Section 6	Point	utilities	The location where water is allowed into the water distribution system	3
water_management_area	Section 6	Polygon	hydrography	Management area for environmentally sensitive water courses or bodies	1
water_well_point	Section 5	Point	improvement	A shaft dug or drilled into the earth for the purpose of extracting water from subsurface aquifers, collecting groundwater environmental samples, injecting water or other fluids into subsurface aquifers, or extracting contamination or other impurities from subsurface aquifers	1
well_field_site	Section 5	Point/Polygon	improvement	An area containing natural resources wells for example oil or gas wells.	3
wetland_area	Section 6	Polygon	hydrography	Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.	1
wilderness_area	Section 2	Polygon	flora	Bounded land, virtually unsettled and uncultivated (naturally) includes areas designated by an administrative group as wilderness, primitive, wild and scenic, or similar designations. Has use restrictions.	1